

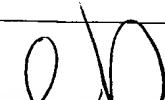


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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/403,224  | 10/15/1999  | KOJI MATSUMOTO       | 0020-4621P          | 6995             |
| 7590 08/06/2004   |             |                      | EXAMINER            |                  |
| BIRCH STEWART KOLASCH & BIRCH<br>PO BOX 747<br>FALLS CHURCH, VA 220400747 |             |                      | REDDICK, MARIE L    |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 1713                |                  |
| DATE MAILED: 08/06/2004   |             |                      |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |   |   |
|------------------------------|--------------------------------------|---|---|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/403,224 | <b>Applicant(s)</b><br>MATSUMOTO ET AL. |   |
|                              | <b>Examiner</b><br>Judy M. Reddick   | <b>Art Unit</b><br>1713                 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 13-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

**Specification**

1. The disclosure is objected to because of the following informalities: On page 3 @ line 1, "Pentafluoroprpylene" should read "Pentafluoropropylene".

Appropriate correction is required.

**Claim Rejections - 35 USC § 103**

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 95/15995, Takemoto et al (as applied to claims 13 and 15) or Albano et al in combination with Applicants' Own Admission.

WO'995 discloses processes for making molded products such as are instantly claimed, see, e.g., Claim 1, page 4, lines 10-19 and the Runs. WO'995 teaches @ page 1, lines 11 and 12 that fluoroelastomers, because of their excellent heat resistance and oil resistance, are commonly used for O-rings, gaskets, etc. which makes the claimed O-rings readily envisaged by one having ordinary skill in the art. WO'995 specifically discloses the use of 0.1 to 5, preferably, 0.3 to 3 parts by weight(pbw)/100 pbw

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fluoroelastomer of t-butyl cumyl peroxide and dicumyl peroxide (page 3, lines 11, 17-19 and Claim 4). WO'995 also specifically discloses the use of 0.1 to 5, preferably, 0.3 to 3 pbw/100 pbw of fluoroelastomer of polyfunctional compounds such as triallylcyanurate, triallylisocyanurate and trimethallylisocyanurate (page 3, lines 14-16, 19-21 and Claim 5). The use of a peroxide in amounts of 0.5 and 1.0 pbw is exemplified per Runs 1 and 2. Therefore, one having ordinary skill in the art would have readily envisaged the use of t-butyl cumyl peroxide or dicumyl peroxide in amounts of 0.3, 0.4, 0.5 and 1.0 pbw in the compositions of WO'995.

Tatemoto et al disclose elastic fluorine-containing polymers, compositions and molded articles therefrom wherein, the fluorine-containing polymers comprising bonded iodine can be crosslinked (col. 1, lines 22-45, col. 6, lines 60-66). The iodine content is preferably 0.1 to 5 wt. % (col. 1, lines 51-58). Specifically, it is taught that the fluorine-containing polymers can be used as a component of a molding material (the paragraph bridging cols. 6-7) which makes molding the material and curing readily envisaged by one having ordinary skill in the art. Tatemoto et al further teach the use of 0.05 to 10 pbw, preferably, 1 to 5 pbw/100 pbw of fluorine-containing polymer of an organic peroxide such as di-t-butylperoxide, t-butylcumylperoxide and dicumylperoxide, as a crosslinking agent (the paragraph bridging cols. 4 and 5) and the use of 0.1 to 10 pbw/100 pbw, preferably 0.5 to 5 pbw/100 pbw fluorine-containing polymer of co-crosslinking agent such as triallyl cyanurate and triallyl isocyanurate (col. 5, lines 10-26). Therefore, one having ordinary skill in the art would have readily envisaged the use of di-t-butylperoxide, t-butylcumylperoxide or dicumylperoxide in amounts of at least 0.3, 0.4, 0.5 and 1.0 pbw in the compositions of Tatemoto et al. Tatemoto et al further teach primary curing at 170 degrees C for 10 minutes under both an atmospheric pressure as well as a pressure of 50 K/cm<sup>2</sup> with little if any change in the resulting properties as a result in the pressure as evidenced by Table 1. As the peroxides used are taught to be equivalent to include di-t-

butylperoxide, t-butylcumylperoxide and dicumylperoxide, similar curing conditions would have been expected to be operable.

Albano et al disclose curable compositions of fluoroelastomers containing preferably 0.01 to 2.5 wt.% of iodine (col. 1, lines 57-64, col. 4, lines 64-66). Curing with di-t-butylperoxide and dicumylperoxide is specifically disclosed (paragraph bridging cols. 4-5) and the use of 0.5 to 10 and, preferably, 1 to 5 % by weight, based on the fluoroelastomer, of curing agent is specifically taught (col. 2, lines 54-56). Therefore, one having ordinary skill in the art would have readily envisaged the use of di-t-butylperoxide or dicumyl peroxide in amounts of 0.5 and 1.0 wt.% in the compositions of Albano et al. The inclusion of 0.1 to 1.0 wt.% of polyfunctional unsaturated compounds is also specifically disclosed (col. 5, lines 7-18). Use of the compositions in making gaskets and seal rings makes molding and curing readily envisioned by one having ordinary skill in the art (col. 6, line 24 and Claim 14).

Applicant admits that the primary curing conditions of conventional rubbers is for example 0.1 to 1 hour in a range between 150 and 190 degrees C at a pressure of 0.1 to 10 Pa (specification, page 5, lines 7-17) which includes the curing conditions set forth in the instant claim 13. It would have been obvious to one having ordinary skill in the art to use conventional curing conditions as set forth via Applicants' Own Admissions for the primary curing of the compositions of WO'995, Tatemoto et al or Albano et al and with a reasonable expectation of success.

The "consisting essentially of" phrase per claim 13 limits the scope of a claim to the specified ingredients/steps and to those that do not materially affect the basic and novel characteristics of a composition (Ex parte Davis, 80 USPQ 448; In re Janakirama-Rao, 317 F2d 951, 137 USPQ 893).

The compositions, as modified supra, of WO'995, Tatemoto et al and Albano et al, prior to undergoing a secondary curing, are made by the same process as is instantly claimed. Therefore, prior to undergoing secondary curing, it is tenable to assume that the

compositions of patentees meet any of the limitations of decomposition products after one curing.

“The fact that appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious.” *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

#### Claim Rejections - 35 USC § 103

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tatamoto et al, alone, or further in combination with WO'995 or Albano et al.

The disclosure of Tatamoto et al is relied upon for the teachings set forth supra in paragraph 4 as applied to claims 13 and 15. Further, the disclosure of Takemoto et al differs basically from the claimed invention as per the non-specific disclosure directed to O-rings as the molded article resulting from the process of Takemoto et al. However, the articles of Takemoto et al are generic to and necessarily imply that any molded article, including the specifically claimed O-rings, would have been operable within the scope of patentees invention and with a reasonable expectation of success. Alternatively, molded articles such as O-rings(seal rings), gaskets etc. are commonly known derivatives of cured fluoroelastomer compositions as evidenced by WO'995 and Albano et al(page 1, lines 11-16 of WO'995 and col. 10, claim 14 of Albano et al). Therefore, it would have been obvious to the skilled artisan to use the process of Tatamoto et al for forming molded articles such as O-rings based on the similarities in the fluoroelastomer compositions of patentees and with a reasonable expectation of success.

#### Response to Arguments

6. Applicant's arguments filed 05/27/04 have been fully considered but they are not persuasive.

Relative to WO'995, Tatemoto et al & Albano et al—The crux of Counsel's arguments appears to hinge on (i) the use of both a "primary" and "secondary" curing step in WO'995, Tatemoto et al and Albano et al and (ii) the specific amount of the peroxide used in the claimed invention is not disclosed in WO'995, Tatemoto et al or Albano et al . As to item (i), Counsel is reminded, herein, that a reference is evaluated, as a whole, for what it teaches and is in noway limited to the working Runs and to bits and pieces of the disclosure. More specifically, the specification need not contain an example if the invention is otherwise disclosed in such manner that one skilled in the art will be able to practice it without an undue amount of experimentation. In re Borkowski, 422 F.2d 904, 908, 164 USPQ 642, 645 (CCPA 1970). Each of WO'995, Tatemoto et al and Albano et al disclose the production of molded articles which have undergone a primary curing step, i.e. the teachings of WO'995, Tatemoto et al and Albano et al are not limited to primary/secondary curing. In any event, even if this is not the case, it would have been obvious to the skilled artisan to conduct primary curing only, with the understanding that the entirety of a reference must be considered as a whole, and with a reasonable expectation of success, absent a clear showing of unexpected results clearly commensurate in scope with the claims. Further, it would have been obvious to the skilled artisan to conduct routine experimentation to determine the conditions under which the fluoroelastomer articles would engender the argued properties. Moreover, claims 13, 14 and 15 do not preclude a secondary curing step as per reasons stated supra.

As to item (ii), each of WO'995, Tatemoto et al and Albano et al have specific disclosures of organic peroxides and amounts which are within the scope of the instant claims. Thus, WO'995 specifically discloses the use of t-butyl cumyl peroxide and dicumyl peroxide (page 3, lines 9-13), and the use of 0.3 parts by weight (pbw) of the peroxide is also specifically taught (page 3, lines 17-19, and Claim 4). The use of peroxide in amounts of 0.5 and 1 pbw is exemplified in Examples 1 and 2. Thus, one would have readily

envisaged the use of t-butyl cumyl peroxide or dicumyl peroxide in amounts of 0.3, 0.5 and 1.0 pbw in the compositions of WO'995. Takemoto specifically discloses the use of di-t-butylperoxide, t-butylcumyl-peroxide and dicumylperoxide (col. 4, line 62 to col. 5, line 10), and the preferable use of 0.5 pbw is specifically taught (col. 5, lines 24-26). Thus, one would have readily envisaged the use of di-t-butylperoxide, t-butyl cumyl peroxide or dicumyl peroxide in amounts of 0.5 pbw in the compositions of Takemoto. Albano specifically discloses curing with di-t-butylperoxide, and dicumylperoxide (col. 4, line 64 to col. 5, line 6), and the use of 0.5 and preferably 1 % by weight is specifically taught (col. 2, lines 54-56). Thus, one would have readily envisaged the use of di-t-butylperoxide, or dicumyl peroxide in amounts of 0.5 and 1.0 wt.% in the compositions of Albano. In regards to the unexpected superior results, Counsel argues that unexpected results have been demonstrated as shown by the results of Table 2 in that in the present invention, when the specific organic peroxide is used in the specifically recited amount, the cured product obtained has physical properties in good balance from only the primary curing step. To this end, even if this turns out to be the case, the claims are simply not limited to where any improvement might have been shown. Note that the improvement in Compression Set (CS) appears to be governed by a peroxide content in a range of 0.5 to 1.0 pbw vs. the claimed range of 0.3 to 1.2 pbw.

Let the record show that "Albano et al" instead of "Tatemoto et al"(2<sup>nd</sup> occurrence) should have been used in the rejection header per paper 03/01/04, paragraph no. 5, an obvious, inadvertent error as is clear from the body of the rejection. An apology is herein extended to applicants for any inconvenience that this may have caused.

#### Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

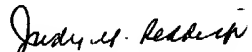



A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judy M. Reddick whose telephone number is (571)272-1110. The examiner can normally be reached on Monday-Friday, 6:30 a.m.-3:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Judy M. Reddick  
Primary Examiner  
Art Unit 1713

JMR   
08/03/04